

IN THE SPECIFICATION

1. Included with this reply, as an attachment, is a sequence listing, which has been produced using the USPTO software PatentIn 3.3 and verified using the USPTO software Checker. Please amend the specification to include the accompanying sequence listing as an appendix.

2. Please enter amendments to the specification as set out below. In the amendments set out below, footnotes are added to tables in the specification in order to cross-reference sequences in the tables to sequences in the accompanying sequence listing.

Please amend Table 1 on page 13 as follows:

TABLE 1

seq	1:
gctactgggtaatagcagacgcgcgcgcggagcgcgaccagtgaaataaaaaaacgcgcgcgcgcacaggagtaggccttctactataactgattac ¹	
seq	2:
cagtaatcggactccagcgcgcgcgcgaaggagcggtaggcgaaataatgaaaacagggtacgcctgcaaataactaaatactatacatcttac ²	
seq	3:
acttgatcggtagctagacgcgcgcgcgaaataattaacgcgcgcgcgcacaggtaggccaaccggagaagctcccaaacgcgcgcgcgtactatcatattac ³	
seq	4:
caaattgtaggggagcgcgcgcgcgcacagggtacgccaaccgcgcgcgcgaaataactaaaacctccatactatatacattaccttacaagacgttatgaagggtac ⁴	
seq	5:
cacgggacgaaagtaattcgtagggggcgcgcgcgcgaaataagaaaaacaggcctaagccttcgcgcgcgcggctatgcggcgaaatccgagc ⁵	

Footnotes:

1. sequence id 9 in accompanying sequence listing
2. sequence id 10 in accompanying sequence listing
3. sequence id 11 in accompanying sequence listing
4. sequence id 12 in accompanying sequence listing
5. sequence id 13 in accompanying sequence listing

Please amend Table 2 on page 14 as follows:

TABLE 2

10	5	cgcgcgcgcg ⁶ _____	0 19 0 54 1 17 2 18 2 39 2 83 3 15 3 41 4 27 4 64
5	5	aaataa..aaa _____	0 43 1 71 2 28 3 51 4 37
5	5	acagg..ta.gcc..c _____	0 64 1 55 2 49 3 25 4 48
4	4	tactata.....ttac _____	0 80 1 82 2 93 3 69

Footnotes:

6. sequence id 1 in accompanying sequence listing

Please amend Table 3 on page 14 as follows:

TABLE 3

Match-Set as per requirements with k and δ

Replet	Match-set
cgcgcgcgcg ⁷	{<0, 19, 0>, <0, 54, 0>, <1, 17, 0>, <2, 18, 0>, <2, 39, 0>, <2, 83, 0>, <3, 15, 0>, <3, 41, 0>, <4, 27, 0>, <4, 64, 0>}
aaataa..aaa	{<0, 43, 0>, <1, 71, 0>, <2, 28, 0>, <3, 51, 0>, <4, 37, 0>}
acagg..ta.gcc..c	{<0, 64, 0>, <1, 55, 0>, <2, 49, 0>, <3, 25, 0>, <4, 48, 0>}
tactata.....ttac	{<0, 80, 0>, <1, 82, 0>, <2, 93, 0>, <3, 69, 0>}
aa..a...a	{<0, 43, 0>, <1, 71, 0>, <2, 28, 0>, <3, 51, 0>, <4, 37, 0>}
Actata	{<0, 80, 1>, <1, 82, 1>, <2, 93, 1>, <3, 69, 1>}

Footnotes:

7. sequence id 1 in accompanying sequence listing

Please amend Table 4 on page 15 as follows:

TABLE 4**Variation Tables**

Replet	Variation Entries
cgcgcgcgcg ⁸	{}
aaataa..aaa	{<0, "aa">, <1, "tg">, <2, "tt">, <3, "ct">, <4, "ga">}
acagg..ta.gcc..c	{<0, "aggtt">, <1, "gcctg">, <2, "tagaa">, <3, "gcaa">, <4, "ccatt">}
tactata.....ttac	{<0, "actga">, <1, "cattc">, <2, "tcata">, <3, "tatca">}
aa..a...a	{<0, "ataaa">, <1, "atatg">, <2, "atact">, <3, "atatt">, <4, "ataga">}
Actata	{}

Footnotes:

8. sequence id 1 in accompanying sequence listing

Please amend Table 5 on page 15 as follows:

TABLE 5

Indirection Table

Replet	Table Entries
cgcgcgcgcg ⁹	{<0, 19, null>, <0, 54, null>, <1, 17, null>, <2, 18, null>, <2, 39, null>, <2, 83, null>, <3, 15, null>, <3, 41, null>, <4, 27, null>, <4, 64, null>}
aaataa..aaa	{<0, 43, 0>, <1, 71, 1>, <2, 28, 2>, <3, 51, 3>, <4, 37, 4>}
acagg..ta.gcc..c	{<0, 64, 0>, <1, 55, 1>, <2, 49, 2>, <3, 25, 3>, <4, 48, 4>}
tactata.....ttac	{<0, 80, 0>, <1, 82, 2>, <2, 93, 2>, <3, 69, 3>}
aa..a...a	{<0, 43, 0>, <1, 71, 1>, <2, 28, 2>, <3, 51, 3>, <4, 37, 4>}
Actata	{<0, 81, null>, <1, 83, null>, <2, 94, null>, <3, 70, null>}

Footnotes:

9. sequence id 1 in accompanying sequence listing

Please amend Table 6 on page 16 as follows:

TABLE 6**Sequence backbones**

bseq 1: gctactgggtaatagcagagagcgcgaccagtg¹⁰

bseq 2: cagtaatcggactccagaaggagcggtgaggcg¹¹

bseq 3: acttgatcggtagctagacggagaagctccaaaac¹²

bseq 4: caaattgtaggggagacctccacttacaagacgcttatgcaagggctac¹³

bseq 5: cacgggacgaaagtaattcgtaggggggctatgcggcgaaatccgagc¹⁴

Footnotes:

10. sequence id 14 in accompanying sequence listing

11. sequence id 15 in accompanying sequence listing

12. sequence id 16 in accompanying sequence listing

13. sequence id 17 in accompanying sequence listing

14. sequence id 18 in accompanying sequence listing